

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 46 2010 (15th – 21st November 2010)



Summary

- During week 46 2010, all indicators of influenza activity in Ireland are at low levels.
 - ◆ The sentinel GP ILI consultation rate was 9.4 per 100,000 population in week 46 2010, a slight increase from the updated rate of 8.0 per 100,000 reported during week 45 2010.
 - ILI rates have increased slightly each week for the last three consecutive weeks; however remain well below the Irish baseline threshold (17.8 per 100,000 population).
 - ILI rates remain at low levels in all age groups.
 - ◆ The first and only positive influenza case of the 2010/2011 influenza season to date was reported by the National Virus Reference Laboratory (NVRL) during week 41 2010, an influenza A (H1N1 2009) case.
 - ◆ The proportion of respiratory syncytial virus (RSV) positive detections has decreased over the last week, and is at low levels compared to the same period in previous seasons.
 - ◆ Sporadic detections of adenovirus and parainfluenza virus types -1, -2 and -3 have been reported since week 40 2010.
 - ◆ The proportion of influenza-related calls to GP Out-of-Hours services remains at low levels.

Surveillance Systems

In order to monitor influenza activity in Ireland a number of surveillance systems are currently in place:

1. Irish College of General Practitioners (ICGP) GP sentinel surveillance system
2. Virological data from the National Virus Reference Laboratory (NVRL)
3. GP Out-of-Hours surveillance system
4. Influenza notifications reported on the Computerised Infectious Disease Reporting system (CIDR)
5. Enhanced surveillance of all hospitalised confirmed influenza cases aged 0-14 years
6. Enhanced surveillance of all critical care patients with confirmed influenza A (H1N1 2009)
7. Outbreak reporting on CIDR
8. Network of sentinel schools reporting absenteeism and sentinel hospitals reporting admission data

1. GP sentinel surveillance system

Clinical Data

During week 46 2010, 51 of 60 (85.0%) sentinel general practices provided data, with 13 practices (25.5%) reporting 21 influenza-like illness (ILI) cases. This corresponds to an ILI consultation rate of 9.4 per 100,000 population, a slight increase from the updated rate of 8.0 per 100,000 reported during week 45 2010. ILI rates have increased slightly each week for the last three consecutive weeks; however remain well below the Irish baseline threshold (17.8 per 100,000 population). Thirty-eight (74.5%) practices reported no ILI cases during week 46 2010. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the NVRL.

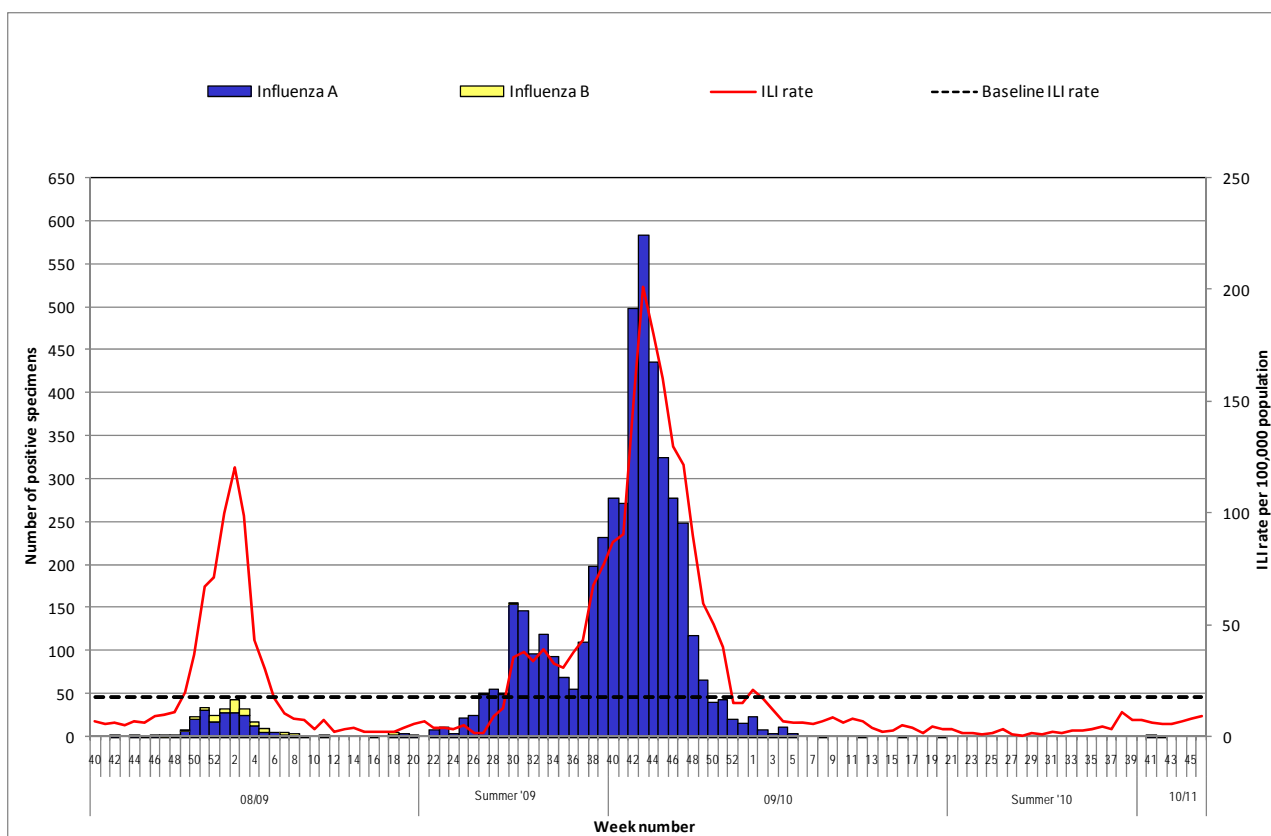


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens, by influenza week and season.

Source: Clinical ILI data from ICGP and virological data from the NVRL^{**}

ILI rates remained at low levels in all age groups during week 46 2010, with the highest rates reported from those aged 5-14 years. There were no ILI cases in the 0-4 year age group. ILI rates increased in the 5-14 year age group (from 0 to 13.5 per 100,000), remained stable in the 15-64 year age group (at 10.5 per 100,000) and decreased in the 65+ year age group (from 7.3 to 4.1 per 100,000).

* Please note that in addition to the NVRL, Cork University Hospital (CUH) and Galway University Hospital(s) (GUH) also tested for influenza A (H1N1 2009) during the pandemic period.

† Sentinel GP consultations and virological data are updated on an ongoing basis, ILI rates and virological data are adjusted accordingly.

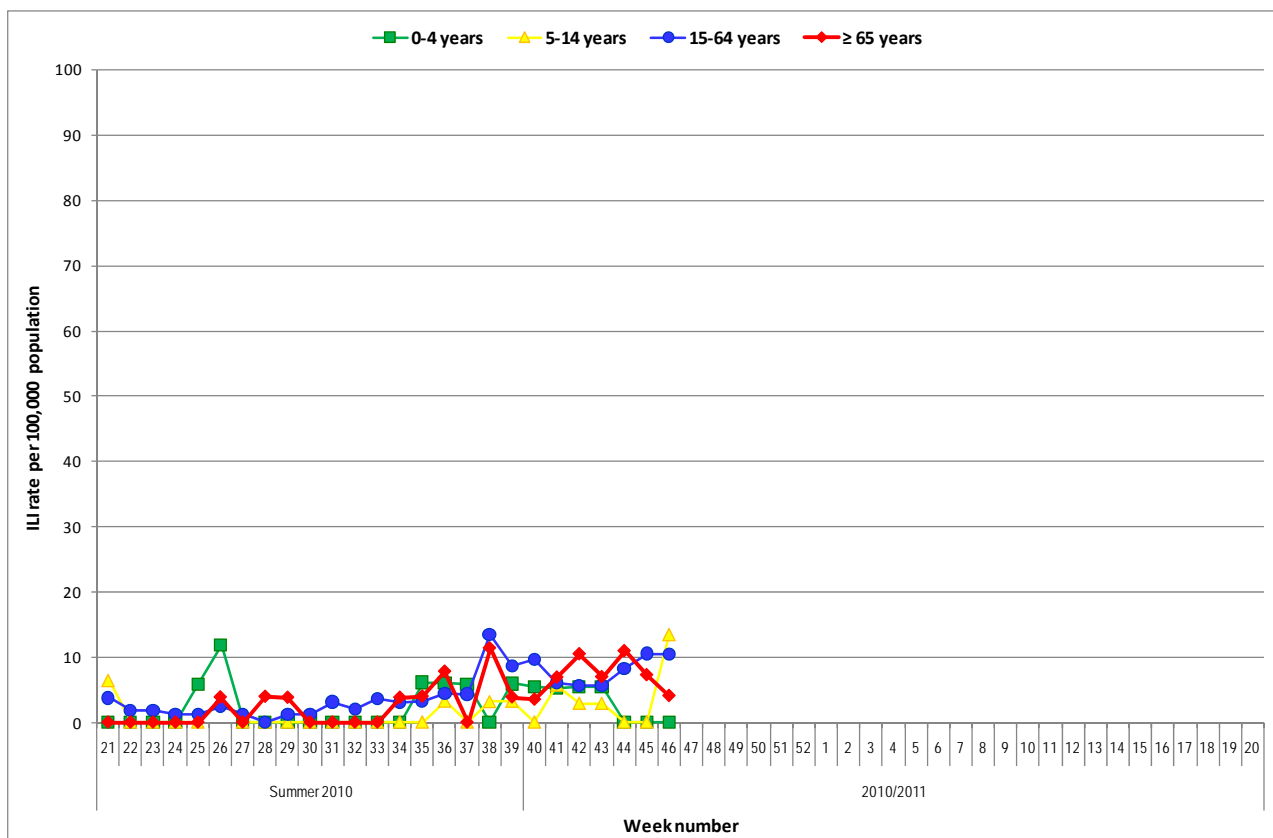


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the Summer of 2010 and the 2010/2011 influenza season to date

Source: ICGP ILI clinical data

2. Virological Data from the National Virus Reference Laboratory (NVRL)

A total of 82 specimens (13 sentinel and 69 non-sentinel) were tested by the NVRL during week 46 2010, all of which were negative for influenza virus (figure 3). All sentinel specimens tested to date this season have been negative for influenza. To date this season, three non-sentinel specimens have tested positive for influenza: one A (H1N1 2009) and two A (unsubtyped). All three specimens were from the same patient, a hospitalised case in the 0-4 year age group.

Of the 69 non-sentinel specimens tested during week 46 2010, two (2.9%) were positive for RSV, two (2.9%) for adenovirus, two (2.9%) for parainfluenza virus type 1 (PIV-1) and one (1.4%) for PIV-3 (Tables 1 & 2). RSV positive detections decreased in week 46 2010 with the current proportion of RSV positive detections at low levels compared to average levels for the same period over the last 10 years. Figure 4 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 and 2009/2010 seasons.[‡] To date this season, there have been sporadic detections of adenovirus and PIV-1, -2 and -3.

[‡] Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case.

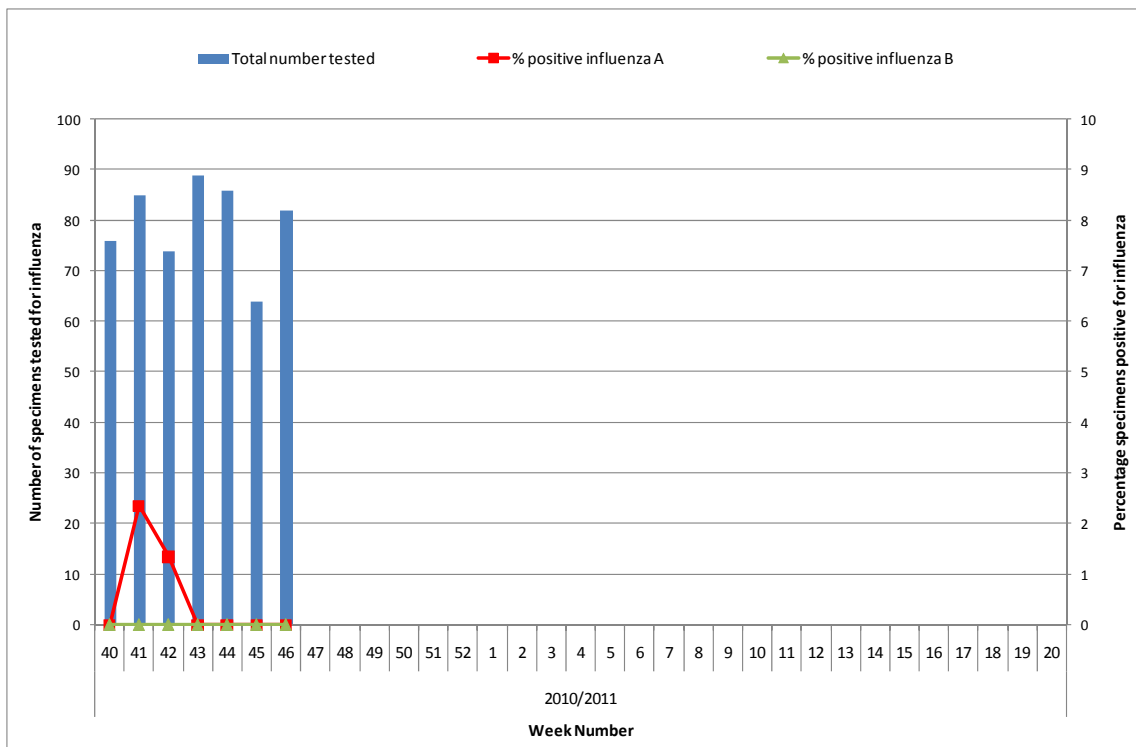


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive
 Source: NVRL[§]

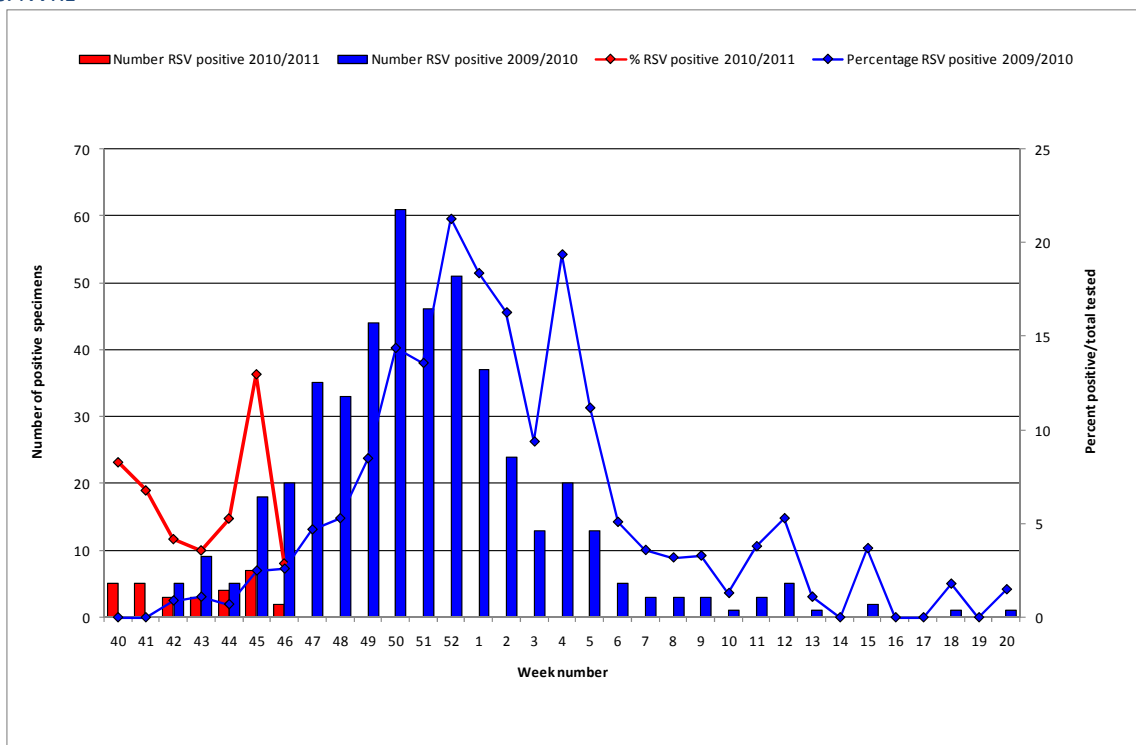


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

[§] Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case.

Table 1: Number of sentinel and non-sentinel respiratory specimens tested and positive influenza results, for week 46 and the season to date**

Source: NVRL

Week number	Specimen type	Total specimens tested	Number influenza positive	% Influenza positive	Influenza A					Influenza B
					Total influenza A	A (H1N1 2009)	A (H3)	A (H1)	A (unsubtyped)	
46 2010	Sentinel	13	0	0.0	0	0	0	0	0	0
	Non-sentinel	69	0	0.0	0	0	0	0	0	0
	Total	82	0	0.0	0	0	0	0	0	0
2010/2011 season	Sentinel	69	0	0.0	0	0	0	0	0	0
	Non-sentinel	487	3	0.6	3	1	0	0	2	0
	Total	556	3	0.5	3	1	0	0	2	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 46 and the season to date Source: NVRL

Week number	Total specimens tested	RSV	% RSV Positive	Adenovirus	% Adenovirus positive	Parainfluenza virus type 1	% Parainfluenza virus type 1	Parainfluenza virus type 2	% Parainfluenza virus type 2	Parainfluenza virus type 3	% Parainfluenza virus type 3
46 2010	69	2	2.9	2	2.9	2	2.9	0	0.0	1	1.4
2010/2011 season	487	29	6.0	5	1.0	5	1.0	2	0.4	1	0.2

** Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case.

3. Regional Influenza Activity by HSE-Area

Regional influenza activity is reported on a weekly basis for each HSE area. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks.

During week 46 2010, sporadic influenza activity (based on sporadic ILI cases and/or positive influenza detections) was reported from four HSE-Areas (HSE-E, -NE, -MW and -S). All other areas reported no influenza activity during week 46 2010 (figure 5).

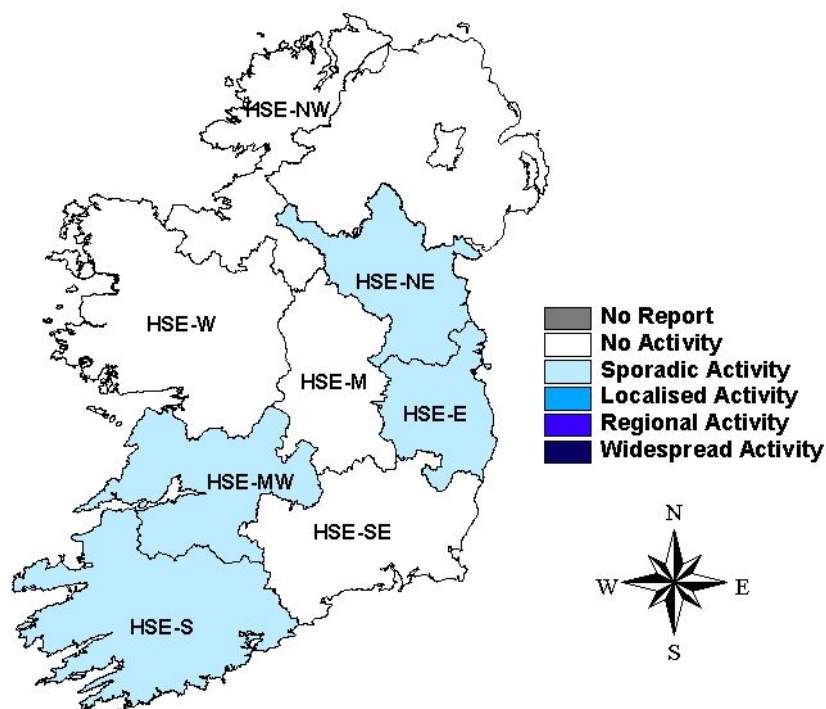


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 46 2010

Sentinel hospitals and schools

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total hospital admissions, total emergency admissions and total respiratory admissions by age group on a weekly basis. Sentinel primary and secondary schools were also established in each HSE-Area, in close proximity to the sentinel GPs, to report absenteeism data on a weekly basis. Hospital admissions and school absenteeism data act as a crude indicator for influenza activity.

There were slight increases in the proportion of respiratory admissions reported from two sentinel hospitals during week 46 2010, one in HSE-E and one in HSE-S. Increased absenteeism associated with student reports of gastrointestinal symptoms and headaches were reported from two sentinel primary schools in HSE-SE during week 45 2010 and one sentinel secondary school in HSE-M during week 46 2010.

4. GP Out-Of-Hours services surveillance

The Department of Public Health in HSE-NE is collating national data on calls to nine of thirteen GP Out-of-Hours services in Ireland. Clinical details from all calls are recorded. Records with clinical symptoms reported as flu or influenza are extracted for analysis. This information may act as an early indicator of increased ILI activity. However, data are self-reported by callers and are not based on coded influenza diagnoses.

During week 46 2010, the proportion of influenza-related calls to GP Out-of-Hours services remained at low levels, at 1.5%, a slight increase from the updated data for week 45 2010 of 1.4% (figure 6). Eight GP Out-of-Hours services reported during week 46 2010.

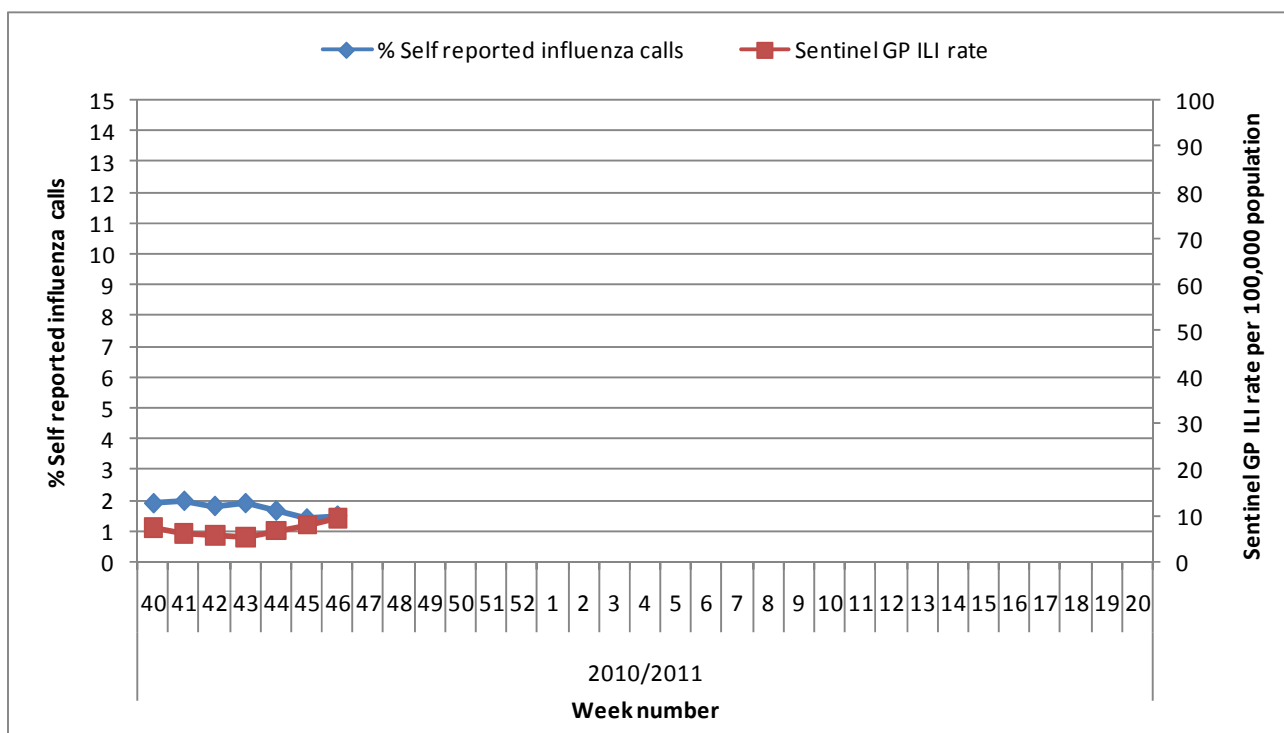


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season
 Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

5. Influenza notifications and outbreak surveillance (CIDR)

As of 25th November 2010, no general outbreaks of ILI/influenza/pandemic (H1N1) 2009 have been reported to CIDR during the 2010/2011 influenza season. One influenza A (H1N1 2009) case was notified to CIDR during week 43 2010 from HSE-NE, this is the only confirmed positive influenza notification to date this season.

6. International summary

United Kingdom

Influenza activity remains low across the UK. In week 45 2010, the weekly influenza/ILI consultation rate decreased or was stable across the UK. In England, the RCGP ILI rate was stable at 7.6 per 100,000. The rates decreased in Wales (10.6 to 9.3), Scotland (39.4 to 38.5) and Northern Ireland (31.5 to 20.7). All rates are well below baseline levels. RCGP consultation rates for acute bronchitis decreased from 106.3 to 85.8 per 100,000; this decrease was observed in most age groups. The pneumonia rate increased from 1.7 to 2.1 per 100,000. In England and Wales the proportion of calls for colds/influenza remains consistently stable and just below the baseline. Three ILI outbreaks were reported in weeks 45 and 46 in England; influenza B was detected in two outbreaks and enterovirus was detected from an outbreak in a care home. Two (5.9%) of thirty four specimens taken in week 45 through English GP sentinel surveillance tested positive for influenza: 1 A (H1N1 2009) and 1 B. Of 517 respiratory specimens reported to the English Data Mart system as taken in week 45 2010, ten (1.9%) were positive for influenza: 7 A (H1N1 2009), 1 A (unsubtyped) and 2 B. Detections of RSV and parainfluenza virus are increasing (10.9% in week 43 to 18.8% in week 45), while detections of rhinovirus continue to decrease (26.7% to 15.4% in the same time period).

<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>

Europe

Epidemiological data indicated either no influenza activity or sporadic activity in 23 of the 24 reporting EU countries in week 45 2010. Bulgaria reported medium intensity of acute respiratory infection (ARI). Thirty-nine sentinel and non-sentinel specimens tested positive for influenza virus during this period: 20 A (H1 2009), 4 A (H3), 8 A (unsubtyped) and 7 B. To date this season, influenza A (H3), A (H1 2009) as well as B viruses of the Yamagata- and the Victoria-lineages have been detected. Rare detections of influenza virus along with sporadic detections of RSV in a number of European countries suggest that the low ILI and ARI activity currently observed are most likely due to respiratory pathogens other than influenza.

http://ecdc.europa.eu/en/healthtopics/influenza/epidemiological_data/Pages/Weekly_Influenza_Surveillance_Overview.aspx

USA

During week 45 2010, influenza activity remained low in the United States. The proportion of ILI outpatient visits was below the national baseline. The proportion of deaths attributed to pneumonia and influenza was at the epidemic threshold. No influenza-associated paediatric deaths were reported. Of 2,876 specimens tested, 220 (7.7%) were positive for influenza: 4 A (H1N1 2009), 17 A (H3), 79 A (unsubtyped) and 120 B. CDC has antigenically characterised four A (H1N1 2009) viruses as A/California/7/2009-like, three A (H3N2) viruses as A/Perth/16/2009-like and one B virus as B/Brisbane/60/2008-like, all of which are components of the 2010/2011 influenza vaccine. <http://www.cdc.gov/flu/weekly/>

Canada

During week 45 2010, the overall influenza activity in Canada has slightly increased. However, most of the influenza surveillance regions have reported no activity. The proportion of positive influenza specimens reported during week 45 has increased with 42 specimens out of 1,951 (2.15%) testing positive: 15 A (H3N2), 23 A (unsubtyped) and 4 B. Since the beginning of the season, A (H3N2) has been the predominant strain circulating in Canada representing 97% of the subtyped positive influenza specimens. The National Microbiology Laboratory in Canada has antigenically characterised one A (H1N1 2009) virus as A/California/7/2009-like, 21 A (H3N2) viruses as A/Perth/16/2009-like and two B viruses as

B/Brisbane/60/2008-like, all of which are components of the 2010/2011 influenza vaccine. <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>

Worldwide (WHO)

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. As of November 22nd 2010, influenza activity remained low worldwide, except in limited areas of tropical Asia and temperate South America. Although the winter influenza season in the temperate zone of the Southern Hemisphere formally concluded during early October 2010 and generally transmission has been negligible since then, there have been recent reports of localised, late season epidemic influenza activity in Argentina. These outbreaks have been associated with the circulation of influenza A viruses (some isolates have been characterised as seasonal influenza A (H3N2) but most have not been subtyped). As the temperate zone of the Northern Hemisphere enters the late autumn and winter months, influenza activity remains at or below seasonal baseline in most countries of Europe, North America, and temperate Asia. Seasonal influenza B and A (H3N2) viruses continue to co-circulate worldwide, with the latter slightly predominant; influenza A (H1N1 2009) virus circulation continues to be detected at low to moderate levels across Asia, and sporadically in other parts of the world. <http://www.who.int/csr/disease/influenza/update/en/index.html>

7. Northern hemisphere influenza vaccine for the 2010/2011 season:

For the 2010/2011 influenza season in the Northern Hemisphere, the members of the WHO Collaborating Centres on Influenza have recommended that seasonal influenza vaccines contain the following strains:

- an A/California/7/2009 (H1N1)-like virus
- an A/Perth/16/2009 (H3N2)-like virus^{††}
- a B/Brisbane/60/2008-like virus

http://www.who.int/csr/disease/influenza/recommendations2010_11north/en/index.html
http://www.who.int/csr/disease/influenza/201002_Recommendation.pdf

Further information on influenza in Ireland and internationally can be found on the following websites:

Ireland	www.hpsc.ie
Northern Ireland	http://www.cdscni.org.uk/
Europe – ECDC	http://ecdc.europa.eu/
Europe – EISN	http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx

Acknowledgements

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^{††} A/Wisconsin/15/2009 is an A/Perth/16/2009 (H3N2)-like virus and is a 2010 southern hemisphere vaccine virus.